

38XR

True RMS digital multimeter with optical PC interface for engineers designing and troubleshooting industrial automation and control systems.



- Frequency to 10 MHz, capacitance to 400 uF, temperature to 2372 °F
- Duty cycle, dBm and 4 to 20 mA loop current test
- 1000 V/750 V dc/ac True RMS, ac + dc input
- 10 Amps ac/dc, fully safety fused
- Resistance to 40 MΩ
- Continuity beeper
- Min/Max, Average, Relative, Peak, and Data Hold
- Bright blue backlight
- Auto power off to save battery life
- Separate door for easy battery and fuse access
- CAT IV 600 V, CAT III 1000 V, highest rating
- Magne-Grip™ Holster with magnetic hanging strap
- Three-year warranty

38XR Specifications (at 23 °C ± 5 °C, <75 % R.H. non-condensing)

DC Voltage

Ranges	1000 mV, 10 V, 100 V, 1000 V
Accuracy	all ranges: ± (0.25 % rdg + 5 dgt)
Resolution	100 µV
AC Voltage (45 Hz to 2 kHz) True RMS	
Ranges	1000 mV, 10 V, 100 V, 750 V

Accuracy	750 V range: 45 to 1 kHz: ± (2.0 % rdg + 10 dgt)
All other ranges, 45 to 500 Hz:	± (1.2 % rdg + 10 dgt)
All other ranges, 500 to 2 kHz:	± (2.0 % rdg + 10 dgt)

AC coupled True RMS specified from 5% to 100 % of range

AC + DC Voltage (45 Hz to 2 kHz)

Ranges	1000 mV, 10 V, 100 V, 750 V
Accuracy	750 V range: 45 to 1 kHz: ± (2.5 % rdg + 10 dgt)
All other ranges, 45 to 500 Hz:	± (1.5 % rdg + 10 dgt)

All other ranges, 500 to 2 kHz:	± (2.5 % rdg + 10 dgt)
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Resolution	100 µV
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DC coupled True RMS specified from 5 % to 100 % of range

DC Current

Ranges	100 µA, 1000 µA, 10 mA, 100 mA, 400 mA, 10 A
Accuracy	100 µA range: ± (0.5 % rdg + 10 dgt)
	1000 µA to 400 mA ranges: ± (0.5 % rdg + 5 dgt)
Ranges	100 µA, 1000 µA, 10 mA, 100 mA, 400 mA, 10 A
Accuracy	100 µA range: ± (0.5 % rdg + 10 dgt)
	1000 µA to 400 mA ranges: ± (0.5 % rdg + 5 dgt)

Resolution	0.01 µA
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AC Current (True RMS) (AC + DC) (45 Hz – 1kHz)

Ranges	100 µA, 1000 µA, 10 mA, 100 mA, 400 mA, 10 A
Accuracy	100 µA to 100 mA ranges: ± (1.5 % rdg + 20 dgt)
	400 mA range: ± (2.0 % rdg + 20 dgt)
Ranges	100 µA, 1000 µA, 10 mA, 100 mA, 400 mA, 10 A
Accuracy	100 µA to 100 mA ranges: ± (1.5 % rdg + 20 dgt)
	400 mA range: ± (2.0 % rdg + 20 dgt)

Resolution	0.01 µA
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AC coupled True RMS specified from 5 % to 100 % of range

AC + DC Accuracy	100 µA to 400 mA ranges: ± (2.0 % rdg + 20 dgt)
	10 A range: ± (3.0 % rdg + 20 dgt)

AC + DC: AC coupled True RMS specified from 10 % to 100 % of range

Resistance

Ranges	1000 Ω, 10 kΩ, 100 kΩ, 1000 kΩ, 10 MΩ, 40 MΩ
Accuracy	1000 Ω to 1000 kΩ ranges: ± (0.5 % rdg + 8 dgt)
	10 MΩ range: ± (1.0 % rdg + 10 dgt)
Ranges	1000 Ω, 10 kΩ, 100 kΩ, 1000 kΩ, 10 MΩ, 40 MΩ
Accuracy	1000 Ω to 1000 kΩ ranges: ± (0.5 % rdg + 8 dgt)
	10 MΩ range: ± (1.0 % rdg + 10 dgt)

Resolution	100 mΩ
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Capacitance

Ranges	40 nF, 400 nF, 4 µF, 40 µF, 400 µF
Accuracy	40 nF, 400 µF ranges: ± (3.0 % rdg + 10 dgt)
Ranges	40 nF, 400 nF, 4 µF, 40 µF, 400 µF
Accuracy	400 nF to 40 µF ranges: ± (3.0 % rdg + 5 dgt)

Resolution	0.01 nF
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Temperature

Ranges	-20 °C to 1300 °C, -4 °F to 2372 °F
Accuracy	-20 °C to 10 °C: ± (2.0 % rdg + 4 °C)
	10 °C to 200 °C: ± (1.0 % rdg + 3 °C)
	200 °C to 1300 °C: ± (2.0 % rdg + 2 °C)
	-4 °F to 50 °F: ± (2.0 % rdg + 8 °F)
	50 °F to 400 °F: ± (1.0 % rdg + 6 °F)
	400 °F to 2372 °F: ± (2.0 % rdg + 4 °F)

Resolution	1 °C, 1 °F
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38XR Specifications (at 23 °C ± 5 °C, <75 % R.H. non-condensing) Cont.

Frequency

Ranges 100 Hz, 1000 Hz, 10 kHz, 100 kHz, 1000 kHz, 10 MHz

Accuracy all ranges: ± (0.1% rdg + 5 dcts)

Resolution 0.01 Hz

Duty Cycle

Ranges 0 to 90 %

Accuracy 5 V logic: ± (2.0% rdg + 10 dcts)

Resolution 0.01 %

Frequency Range 0 % to 10 %: 40 Hz to 990 Hz

10 % to 90 %: 40 Hz to 20 kHz

4 - 20 mA DC Current Test

Range 0 - 100 %

Accuracy ± (0.5 % + 5 dcts)

Resolution 0.01 %

dBm

Ranges -13 dBm to + 50 dBm

Accuracy 45 Hz to 5 kHz: ± (0.7 dB + 8 dcts)

5 kHz to 10 kHz: ± (2.5 dB + 8 dcts)

Resolution 0.01 dBm

Continuity

Audible Indication < 40 Ω

Diode Test

Test Current 0.5 mA (approximate)

Open Circuit Volts 3.0 V dc typical

Peak

AC Volts Accuracy 100 V, 750 V ranges: ± (3.0 + 200 dcts)

1000 mV, 10 V ranges: unspecified

AC Current ± (3.0 + 200 dcts)

Overload Protection

AC/DC Voltage 1000 V dc or 750 V ac rms

AC/DC Current μA/mA input: F0.5 A /1000 V fast-blow ceramic 6.3 x 32 mm

10A input: F10 A /1000V fast-blow ceramic 10 x 38 mm

General Specifications

Autoranging; Display: 4-3/4 digit LCD, 10,000 counts with 41-segment analog bar graph; **Display Update Rate:** 2/sec, nominal; **Power Battery:** 9 V NEDA 1604, JIS 006P, IEC 6F22; **Battery Life:** 150 hrs typical (alkaline) frequent use of backlight will decrease battery life; **Operating Temperature:** 0 °C to 45 °C at < 70 % R.H.; **Storage Temperature:** -20 °C to 60 °C, 0 to 80 % R.H. with battery removed from meter; **Temperature Coefficient:** 0.1 x (specified accuracy) per °C (0 °C to 18 °C, 28 °C to 45 °C); **Altitude:** 2000 m) 6562 ft; **Dimensions:** 7.8" x 3.55" x 2.4" (196 x 96 x 60 mm); **Weight (without holster, including battery):** 1 lb (400 gr)

Included Accessories

Test leads with threaded alligator clips (TL36), temperature adaptor (XR-TA), Type K thermocouple probe (TP255), 9 V battery (installed), Magne-Grip™ Holster with magnetic hanging strap, spare fuse, operators manual

Features

Input lead warning; analog bar graph; Data Hold; Min/Max; Average; Relative; Peak; auto power off after 30 minutes typical; low battery indication; backlight; overrange indication; three-year warranty

Optional Accessories

VC221A Padded Vinyl Carry Case, DL248C Deluxe Test Lead Kit, DC207B Heavy Duty Case, HV231-10 High Voltage Probe, TP254 High Temperature Probe; P/N 38-SW RS232 Cable and Software



In accordance with
+IEC publication 1010-1
54CJ

Digital Multimeter